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# The effectiveness of similitor usage in the paramedic education

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## Abstract

Turkey, the educational simulation has an important place in terms of this changing sense in medical education. The universities, which review the training they provide, involve the simulation in their curriculum in order to enable the students-to-graduate to acquire the need of convenient knowledge and some skills during the faculty education. The team that is employed in 112 emergency health services primarily aims to perform interventions for saving the human life in cases of any danger, try to prevent the possible secondary damages while performing these interventions and thus, enable the sustainment of life without any sequela. Simulation presents a learning environment that provides the possibility of a learner-centered experience rather than an experience where the patient is objective, and gives both confidence and support to the student.

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## 1. Introduction

The history of simulation dates back to 5000 years ago. The first simulations, known as WEICH, come from Chinese war games. These games were also used to develop army and navy strategies. Since 1800s, military plans were made with the help of simulations (Shah et al., 2007). The second important milestone in the history of simulation was the first flight simulator developed by Edward Link in 1929. Although it was designed for paid recreational flights, Link's simulator was later extensively used in military and commercial aviation training and evaluation beginning from 1949 (Patrick 2002). The third milestone in the history of simulation was its use in the training and evaluation of medicine students with the medicine training reform in the 1990s, which has made it recognized world-wide. At first, simulators were only used in clinical skill laboratories because of their high costs. Today, they are an indispensable part of both pre- and post-graduation training programs and simulation-based

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training has been extensively used as an innovative approach in medicine training (Bradley 2006).

The concept of simulated patient was first suggested by Barrows and Abrahamson in 1964 in order to make it easier to teach clinical skills (Collins et al., 1998). The first studies on simulated patients were conducted by Harden, Stevenson, Wilson and Downie in 1975. The use of simulated patients has become widespread in both training and assessment-evaluation after 1980 (Lane et al., 2001).

- *The definition of simulation*

Simulation is defined as the imitation of tasks, relations, phenomena, equipments, behaviours and certain cognitive activities, which are present in reality. Developments in technology and education resulted in a collaboration between these fields, thus allowing simulation applications and tools to become widespread and used in training. Rising values such as patient safety, patient rights and efforts for improving student competency made it possible for simulations to be extensively used in medicine training (Mıdık et al., 2010).

Every simulation must possess the property of “fidelity”, which can be defined as “consistency with real life”, or in other words, “authenticity”. This property reflects the reality of experiences (Maran et al., 2003). A simulation must be able to imitate all existing possibilities and provide a rich environment, where participants can respond realistically. A simulation must contain different paths that the participant can follow in case of a change in the problem or situation or unclear situations, it should be able to act in accordance with the actions of the participant. The more of these features contains the system, the better the participants can transfer what they learned during the simulation to the real life (Patrick 2002).

- *The Benefits of Using Simulation in Training*

Using certain occupational applications on the patient for the first time puts the student under stress for many reasons. The primary reasons are worrying about making a mistake or fear of harming the patient. The other reasons include not being able to experiment on the patient continuously, not being able to learn because of lack of supervision and worrying about being insufficient (Weller 2004). The trainings on real patients are brief, opportunistic and they depend on the experience level and interests of the trainer. This results in a training environment which is difficult, incomplete, insecure and lacks feedback. The use of simulations helps reverse all these negativities (Ziv 2005). The use of simulations will provide an innovative spirit for the training program, it will take basic and advanced trainings to a higher level by increasing cognitive knowledge level. The transfer of skill from training environment to real situations will be encouraged and proficiency of the students will improve with right applications and high recall ratios. Thus, it will be possible to claim an increase in the quality of training programs and graduates. With the use of simulations in training programs, trainers will have the opportunity to actively participate in student’s trainings and evaluations, learn about the developments in the field and practice (Ziv 2003).

## 2. Discussion

Simulation is defined as the imitation of tasks, relations, phenomena, equipments, behaviours and certain cognitive activities, which are present in reality (Mıdık et al., 2010). Issenberg et al. (2001) defined simulation as an application in which students have to act as if they were in a real life situation. Bradley (2006) approached the use of simulation in medicine training as in a broad perspective and defined it not only as a wide range of technological possibilities, but also as a training method which contains a considerable amount of human interaction. According to Gaba (2007), simulation is a technique which makes it possible to experience a real situation beforehand with the help of a guide.

It’s important to give feedback to students on a regular basis during the application in order to expand their knowledge about the practice (Alinier 2003). Giving feedbacks to students during trainings in which simulation is used makes it possible for them to learn from their mistakes and gain experience without harming patients (Burgess 2007). Students may experience fear and anxiety during clinic practices due to lack of experience (Rhodes et al., 2005). Anxiety levels of students directly affects their ability to make clinic-related decisions and learn (Rhodes et al., 2005). Continuous repetitions made possible with simulation-based trainings improve students’ performances and boost their self-confidence (Reilly 2007). Having more practice allows students to have lower levels of anxiety and improve their self-confidence, thus improve the quality of their performance (Karaköz 2003).

In a study conducted by Terzioğlu et al. (2002), it has been stated that using advanced application-responsive models in skill development applications was more effective in terms of making them feel proficient. Schoening et al (2006) has stated that simulation was not only an effective training tool, but also a training tool which boosts students' confidence in emergency situations which may occur in clinics. In addition, students have expressed that this self-confidence was associated with improvements in post-training dexterity, team work, communication and decision-making skills. (Göriş et al 2014)

### 3. Conclusion

Considering the mortality rates, the first few hours after the onset of the event that is called “golden hours” on the margin of life and death are very important in terms of intervention. Once the event occurs, it is required to perform the right intervention on the patient/injured at the right time, provide the stabilization (balance of vital functions) of the patient/injured on the scene and carry her/him with convenient teams and equipments and with convenient carrying methods. Today, it is required to have sufficient knowledge and skills in many respects in 112 emergency health services. Simulation-based health education is one of the best examples of the application areas of the experience-based learning. It enables the patient to gain experience by repeating, making mistakes and learning from mistakes without any harm. It prepares an educational environment for the student to think about her/his performance. It is possible to prepare scenarios as required and test all probable conditions. Such an educational environment will increase the transfer of what is learned with the help of convenient skill educational methods to learnings in the clinical environment.

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